

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-21 and 23-36 are pending in the application, with claims 1, 15, 24 and 34 being the independent claims. New claims 30-36 are added. Claims 1, 4, 14, 15, 24 and 25 are amended herein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Applicants thank the Examiner for taking the time to personally meet with Applicants' representatives on August 4, 2005. Applicants' representatives presented arguments that the applied art fails to teach a chamber defined by a mold block, a nozzle tip, and a seal piece; a mold gate insert having a higher thermal conductivity than a seal piece; a nozzle tip having a guidance and alignment structure; and a gate insert and a seal piece engaging a mold block within the same bore. Applicants' representatives also discussed a proposed FIG. 21 and demonstrated the support for adding claim FIG. 21 in claim 13 as originally filed.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objection to the Specification

The Examiner objected to the specification, indicating that the letter "e" was missing from several words throughout the specification. We note that these letters are not missing in our file copy and, with the exception of paragraph [0090] amended herein, are not missing in the Published Application, U.S. Patent Application Publication No.

2004/0071817 A1. These errors appear only on the scanned copy in the electronic file wrapper on the U.S. Patent and Trademark Office PAIR system. Since the Published Application reflects how the application data was captured, it does not appear necessary to make the amendments to the specification suggested by the Examiner. Therefore, Applicants respectfully request the withdrawal of this objection. However, if the Examiner suspects that an issued patent will be incorrectly printed, Applicants will resubmit the application as filed.

Amendments to the Drawings

As discussed with the Examiner during the interview, claim 15 as originally filed specifically recited, *inter alia*, "a mold gate insert having a gate, said mold gate insert being in contact with the seal piece." However, none of the previously submitted drawings illustrate this feature. As such, Applicants herein add new FIG. 21, which is the same structure depicted in FIG. 13 of U.S. Provisional Patent Application No. 60/399,121, to which this application claims priority. Reference numerals that were common to FIG. 13 in the provisional application and to FIG. 13 in the present application were retained in new FIG. 21. Applicants also add paragraph [0036a] to the Description of the Drawings and amended paragraph [0069] to particularly describe FIG. 21. During the interview, the Examiner agreed that originally filed claim 13 provides adequate support for the inclusion of new FIG. 21, which is also properly supported by the provisional application, without adding new matter. Therefore, Applicants respectfully request the entry of the new drawing and the amendment to the specification.

Rejections under 35 U.S.C. § 112

The Examiner rejected claims 1-14 under 35 U.S.C. § 112, second paragraph, as being indefinite with respect to the terms "is is," "and sliding," the transposition of the terms "first" and "second," and the term "and positioning" in claim 1. Applicants have amended claim 1, and the phrases have been reworded to correct these errors. Therefore, Applicants respectfully request the withdrawal of this 35 U.S.C. § 112, second paragraph rejection.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 1-4, 11, 12, 14 and 24-27 under 35 U.S.C. § 103(a) as obvious over U.S. Patent Application Publication No. 2003/0008034 to Niewels ("Niewels") in view of Japanese Publication No. JP 08-90598 ("JP '598"). The Examiner has rejected claims 5, 6, 15-19, 23, 28 and 29 under 35 U.S.C. § 103(a) as obvious over Niewels in view of JP '598 and further in view of U.S. Patent No. 6,309,208 to Kazmer *et al.* ("Kazmer"). Claims 9 and 10 have been rejected under 35 U.S.C. § 103(a) as obvious over Niewels in view of JP '598 and further in view of U.S. Patent No. 6,036,467 to Jameson ("Jameson"). Claims 13 and 21 have been rejected under 35 U.S.C. § 103(a) as obvious over Newels in view of JP '598 and Kazmer and further in view of U.S. Patent No. 5,895,669 to Seres, Jr. *et al.*

Independent claim 1 recites, *inter alia*, "a chamber is defined by said mold block, said nozzle tip and said seal piece and wherein said nozzle tip has sufficient surface area in said chamber to maintain melt in said chamber in a substantially molten state" and a valve pin having a first guidance and alignment structure that interacts with a second guidance and alignment structure in the mold block. The particular arrangement of the

nozzle tip, seal piece and mold block, with a second guidance and alignment system is not specifically taught nor is the combination suggested by any of the references provided by the Examiner. For example, the Niewels reference provides no suggestion for altering the specific nozzle tip 16, insulator 14 and cavity plate 34 design to include a chamber as claimed, nor is there any indication that a chamber would be at all suitable in the design provided, as tight tolerances between the components are illustrated in the figures. Similarly, there is no suggestion in JP '598 to modify the nozzle body to include a nozzle tip as claimed. As such, the applied references do not teach the invention of claim 1, either alone or properly combined. Further, claims 2-14, 23 and new claims 30-32 depend from and add further limitations to independent claim 1 and are patentable for at least the reasons discussed herein with respect to independent claim 1.

Independent claim 15 recites, *inter alia*, "the seal piece is made of a third material" and "the mold gate insert is made of a fourth material having a higher thermal conductivity than said third material." The Examiner relies on both Niewels and Kazmer to teach the seal piece having a lower thermal conductivity than the nozzle body. However, neither reference teaches or suggests the mold gate insert made of a fourth material having a higher thermal conductivity than the third material of the seal piece. As discussed with the Examiner, the Kazmer reference does not teach a mold gate insert. The Niewels reference does not teach any specific material or thermal conductivity differences between insert 42 and optional insulator 14. As such, the applied references do not teach the invention of claim 15 either alone or properly combined. Further, claims 16-21 and new claim 33 depend from and add further limitations to independent

claim 15 and are patentable for at least the reasons discussed herein with respect to independent claim 15.

Independent claim 24 recites, *inter alia*, "a nozzle tip in thermal contact with the nozzle body and including a third guidance and alignment structure." None of the cited references teach this feature. Additionally, none of the cited references provide any motivation to include a guidance and alignment structure in a nozzle tip. Specifically, JP '598 does not teach or suggest a nozzle tip at all. As discussed with the Examiner, any wear to the nozzle body of JP '598 caused by a valve pin sliding along a nozzle body surface would require replacement of the entire nozzle body, rather than merely the replacement of a nozzle tip. The Niewels reference does not teach nozzle tip 16 contacting movable valve member 18 or providing any alignment assistance to movable valve member 18. As such, the applied references do not teach the invention of claim 24, either alone or properly combined. Further, claims 25-29 depend from and add further limitations to independent claim 24 and are patentable for at least the reasons discussed herein with respect to independent claim 24.

New independent claim 34 recites, *inter alia*, "said seal piece and said gate insert engage said mold block within a common bore in said mold block." None of the cited references teach this feature either alone or in combination. As discussed with the Examiner, having a gate insert and a seal piece in a common bore further aligns the nozzle tip with respect to the gate formed in the gate insert. The Examiner agreed that Niewels teaches an insert 42 in a different bore than insulator 14, and thus does not teach the feature as claimed. JP '598 does not teach a seal piece aligned with a gate insert, and Kazmer does not teach a gate insert at all. As such, the applied references do not teach

the invention of claim 34 either alone or properly combined. Further, new claims 35-36 depend from and add further limitations to independent claim 34 and are patentable for at least the reasons discussed herein with respect to independent claim 34.

Applicants therefore respectfully request the withdrawal of these 35 U.S.C. § 103(a) rejections and allowance of pending claims 1-21 and 23-36.

Other Matters

Applicants would like to thank the Examiner for indicating that claims 7, 8 and 20 contain allowable subject matter if rewritten in independent form. Applicants respectfully request the continued allowability of claims 7, 8 and 20 despite amendments made herein to the independent claims from which they respectively depend.

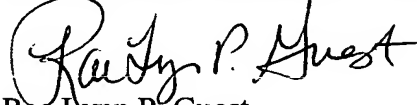
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

A handwritten signature in black ink, appearing to read "Rae Lynn P. Guest". The signature is written in a cursive, flowing style.

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